THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

M E M O R A N D U M

TO: August Preschle, Manager, World Trade Center Operations
FROM: Harry R. Pool, Jr.
DATE: October 31, 1986
SUBJECT: ASBESTOS AIR SAMPLING - ONE WORLD TRADE CENTER - 30th AND 31st FLOORS
REFERENCE:

COPY TO: F. Boyce, N. Budeiri, R. Fagin, M.D., R. Linn, D. Montalbano E. Monteverde

As previously discussed with you on the night of Friday, March 28, 1986, a high pressure water valve on the thirty-first floor of One World Trade Center ruptured resulting in extensive ceiling tile damage, asbestos insulation disruption, and flooding on the floors below. Ceiling tiles were saturated with water and insulation fall out, primarily on the thirty-first and thirtieth floors, with limited tile fallout on the twenty-ninth and twenty-eighth floors. In addition sprayed-on asbestos insulation was disturbed on the structural members, as well as the fallout material deposited on the plenum surface of the ceiling tiles. When the ceiling tiles fell from their spline support system, so did the asbestos fallout material. The result was on the thirty-first and thirtieth floors, asbestos insulation was exposed on the support members, and insulation fallout material litered the carpeted floor. Upon notification, World Trade Operations responded by shuting down the ventilation supply and return air system to the affected floors and initiated repair procedures.

An on site assessment disclosed the following: The fallen ceiling tiles and asbestos were thoroughly saturated with water on the floor, carpeting was saturated, wall surfaces were lightly misted with water in the more severely affected areas, and the asbestos sprayed on material maintained its adhesion to the support members. All personnel involved in the replacement of ceiling tiles were issued Tyvex disposable suits with hood and boot attachments, and HEPA filter respirators. Ceiling tile replacement and site clean up took place concurrently. Because of the possible generation of airborne asbestos fibers due to the primary water leak and subsequent operations, air testing was conducted.

To collect the air samples, 0.8 micron grided filter cassettes attached to high velocity pumps were utilized. A minimum of 3,000 liters of air was drawn per sample. Sample analysis conformed to the current NIOSH procedure, P and CAM 239. The following results were obtained:

PLAINTIFF'S EXHIBIT PX-697

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Date	Sample No.	Location	Result
Saturday 3/29/86	WTC-507	30th Floor, 1/F/O Stairway A	0.03 F/CC*
	WTC-508	30th Floor, McMullen Office Space, 1st Cubicle in Corridor	0.01 F/CC
	WTC-509	30th Floor, McMullen Office Space, Interior Space	0.03 F/CC
	WTC-510	31st Floor, 1/F/O Stairway B	0.06 F/CC
	WTC-511	31st Floor, Euro-Brokers Reception Area	0.06 F/CC
	WTC-512	31st Floor, Euro-Brokers Trading Floor	0.05 F/CC
	WTC-513	31st Floor, Outside Suite 3127	0.05 F/CC

The above samples were collected during ceiling tile installation and clean up.

The United States Department of Labor Occupational Safety and Health Administration (OSHA) standard for airborne asbestos was 2 fibers per cubic centimeter of air for an average eight hour work shift. As can be observed from the test results, OSHA compliancewas satisfied. Currently, the United States Environmental Protection Agency (USEPA) is recommending a contractor post-abatement release airborne level of 0.01 fibers per cubic centimeter for site reoccupancy. This level is based upon NIOSH procedure P and CAM 239.

After the replacement of the ceiling tiles, the thirty-first and thirtieth floors were carefully cleaned following a decontamination procedure. Personnel involved in the cleaning wore disposable suits with hood and boot attachments, and used HEPA filter vacuum cleaners to decontaminate all surfaces. In addition, negative air machines (microtraps) were used to supply negative pressure for ventilation and drying purposes. As stated earlier, there was limited release on the lower floors. However, the same cleaning procedure was followed. The following samples were collected a few hours after termination of cleaning and sample gathering continued for several days during normal operational hours. The following results were obtained:

Date	Sample No.	Location	Result
Sunday 3/30/86 (at)	WTC-514	31st Floor, Elevator Lobby	0.01 F/CC*
Monday	WTC-515	31st Floor, 1/F/O Stairway B	0.01 F/CC

* Fibers Per Cubic Centimeter of Air

Date	Sample No.	Location	Result
	WTC-516	31st Floor, Inside Suite 3127	0.01 F/CC*
	WTC-517	31st Floor, Euro-Brokers Reception Area	0.01 F/CC
	WTC-518	31st Floor, Euro-Brokers Trading Room	0.01 F/CC
	WTC-519	30th Floor, McMullen Office Space, 1st Cubile in Corridor	0.01 F/CC
	WTC-520	30th Floor, I/F/O McMullen Main Corridor Door	0.01 F/CC
	WTC-521	30th Floor, McMullen Office Space Interior Office	0.01 F/CC
	WTC-522	30th Floor, I/F/O Stairway A	0.01 F/CC

As can be observed from the data, the decontamination cleaning procedure, and use of the microtraps lowered the airborne asbestos concentration to levels within the U.S. EPA recommendation. Based upon these results, tenant reoccupancy was permitted. Air monitoring was continued for several days during normal operational hours. The following results were obtained:

Date	Sample No.	Location	Result
Tuesday 4/1/86	WTC-523	7th Floor MER, NE 7 Return ACS 76	0.01 F/CC*
	WTC-524	7th Floor MER, SE7 Return ACS 77	0.01 F/CC
	WTC-525	7th Floor MER, SW 7 Return ACS 78	0.01 F/CC
	WTC-526	7th Floor MER, NW 7 Return ACS 79	0.01 F/CC
	WTC-527	31st Floor, Suite 3127, Along South Wall	0.00 F/CC
	WTC-528	31st Floor, Suite 3115, East Side	0.00 F/CC
	WTC-529	31st Floor, Euro-Brokers, Phone Room	0.00 F/CC
	WTC-530	31st Floor, Euro-Brokers, Reception Area	0.01 F/CC

* Fibers Per Cubic Centimeter of Air

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Date	Sample No.	Location	Result
	WTC-531	41st Floor MER, Air Return, N.W.	0.00 F/CC *
	WTC-532	41st Floor MER, Air Return, S.W.	0.00 F/CC
	WTC-533	41st Floor MER, Air Return, N.E.	0.00 F/CC
	WTC-534	41st Floor MER, Air Return, S.E.	0.00 F/CC
Thursday 4/3/86	WTC-535	31st Floor, Euro-Brokers, Mailroom	0.00 F/CC
	WTC-536	31st Floor, Euro-Brokers, Reception Area	0.00 F/CC
Friday 4/4/86	WTC-544	31st Floor, Euro-Brokers, Reception Area	0.01 F/CC
	WTC-545	31st Floor, Euro-Brokers, Phone Room	0.01 F/CC

As can be observed from the collected data, all results are within the U.S. EPA recommendation.

If you have any questions, please call me at PATHside 201-963-7476.

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* Fibers Per Cubic Centimeter of Air